Title (en)

A VAPOR PHASE METHOD OF GROWING A SEMICONDUCTOR COMPOUND

Publication

EP 0026658 B1 19840222 (EN)

Application

EP 80303411 A 19800929

Priority

- JP 12471979 A 19790929
- JP 12472079 A 19790929

Abstract (en)

[origin: EP0026658A1] In an example of the vapor phase epitaxy (VPE) method of a compound semiconductor, a high resistivity GaAs buffer layer and a low resistivity GaAs active layer are successively grown on a GaAs substrate. It is, however, difficult in the conventional VPE methods to provide the buffer layer with a high resistivity, due to contamination of impurities deposited on the VPE reaction tube (1). It is also difficult in the conventional VPE methods to provide the interface between the compound semiconductor layers with an abruptly changing doping profile. In accordance with the VPE method of the present invention, a dummy GaAs substrate (5) having a crystallographic orientation different from that of the GaAs substrate (3) is positioned just above and opposite to the GaAs substrate (3), thereby decreasing the epitaxial growth rate on the GaAs substrate (3) and thus eliminating the problems of the conventional methods. Advantageously, the yield of the VPE method is enhanced and the noise figure of the FETs is decreased by the present invention.

IPC 1-7

C30B 25/18; C30B 29/40

IPC 8 full level

C30B 25/02 (2006.01); **C30B 25/18** (2006.01)

CPC (source: EP US)

C30B 25/02 (2013.01 - EP US); **C30B 25/18** (2013.01 - EP US); **C30B 29/40** (2013.01 - EP US); Y10S 117/902 (2013.01 - EP US); Y10S 438/925 (2013.01 - EP US)

Designated contracting state (EPC)

DE FR GB NL

DOCDB simple family (publication)

EP 0026658 A1 19810408; **EP 0026658 B1 19840222**; DE 3066705 D1 19840329; US 4411729 A 19831025

DOCDB simple family (application)

EP 80303411 A 19800929; DE 3066705 T 19800929; US 19129680 A 19800926